

REMARKS

Reconsideration and allowance of the above-identified application are respectfully requested. Claims 1-24 are currently pending.

Initially, Applicant notes with appreciation the Examiner's approval of the Amended Drawings submitted with the Amendment filed on December 24, 2004. Formal drawings including these changes are currently being prepared and will be filed in due course.

Claims 1, 4-14, 17, 19-21 and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Published Patent Application 2002/0024602 to Juen in view of U.S. Patent No. 5,712,581 to Suh. Prior to discussing this ground of rejection in detail, a brief summary of methods and apparatuses for concurrently acquiring, processing and transmitting digital video and still images according to exemplary embodiments of the present invention is provided below to highlight some of the advantageous characteristics thereof.

According to exemplary embodiments of the present invention, a dual pipeline architecture provides for concurrent processing of (1) video frames and (2) still images. The dual pipeline architecture may include a video pipeline optimized for digital video and a still image pipeline optimized for high resolution digital still images. When a still image is desired, the video frames can be temporarily buffered while the still image is being acquired. As a result, high resolution still image photographs maybe acquired without any interference with the video recording or any impact on the quality of the video or the still image photographs.

In the Office Action, reference is made to Figure 5 of the Juen patent application. The electronic camera illustrated therein, by way of contrast, is based upon an architecture

wherein a still image is buffered while video frames are processed. See, for example, paragraph [0051] of Juen wherein it is stated that “..the buffer means 5 ..temporarily stores the image information from the imaging means 1 upon receipt of the command for recording still images when the command for recording is given ...[t]he image compression means 7 waits for completion of recording by the moving image recording means 3 and compresses the image information stored in the buffer means 5.” Thus, unlike exemplary embodiments of the present invention, the cited portion of Juen temporarily stores still image data while processing video image data as opposed to temporarily storing video image data while processing still image data.

This difference between Juen and the claimed combination is recognized in the Official Action and is the reason for the citation to Suh. It is important to note, and Applicant respectfully disagrees with, the two step chain of reasoning which is used to modify Juen in view of Suh. Each step is analyzed below.

There Would Have Been No Motivation To Add a Buffer to Juen in view of Suh

First, the Official Action indicates that it would have been obvious to add a buffer to the system of Juen “in order to enable processing of image data such as DCT”. This first modification of Juen is deemed to have been obvious because “Suh discloses to perform various operations on data while it is buffered, such as color correction and compression” and because “Juen also discloses performing encoding processes, shown in Fig. 3”. However, Applicant respectfully submits that one of ordinary skill in the art, having reviewed the teachings of Juen and Suh would not have been motivated to add a buffer to the system of

Juen as set forth in the Official Action. Specifically, there would have been no motivation for one of ordinary skill in the art to have made this modification to Juen because Juen already teaches the provision of a buffer 5 for operating in conjunction with encoding processes. See, e.g., paragraph [0052] of Juen wherein it states that:

“When the still image recording command is externally supplied during the moving image recording period, the buffer means 5 temporarily stores image information from the imaging means 1. In this state, the image compression means waits for the completion of recording of the moving image recording means and compresses the image information stored in the buffer means 5...”

Accordingly, since Juen already teaches the provision of a buffer and since Juen already teaches the performance of encoding processes, it is respectfully submitted that Suh's disclosure of performing various operations on data while it is buffered would not have motivated one of ordinary skill in the art to have added a buffer to the system of Juen as set forth in the Official Action.

No Combination of Juen and Suh Would Have Suggested Temporarily Storing Video Frames When One or More Still Images Are Acquired

In the second step of the rejection, once a buffer is added to the system of Juen, the Official Action takes the position that “[a]s such there would have been a buffer for temporarily storing video frames when one or more still image is acquired during video frame acquisition.” Applicant respectfully submits that, even assuming strictly arguendo that the addition of another buffer to Juen would have been suggested by the combination of Juen and Suh, nothing in either of these documents teaches or suggests this particular use as set forth in Applicant's claimed combinations. Nor does the Official Action point to any portion of Juen

or Suh in making this conclusion. It is respectfully submitted that one of ordinary skill in the art would not have been motivated to have used a buffer in the system of Juen to temporarily store video frames when one or more still images are acquired, whether modified in view of Suh or not, without first having the benefit of hindsight reference to Applicant's own specification.

Accordingly reconsideration and withdrawal of the rejection of claims 1, 4-14, 17, 19-21 and 24 under §103 over Juen in view of Suh are respectfully requested.

Claims 2, 3, 15 and 16 stand rejected under 35 U.S.C. §103 over Juen in view of Suh and further in view of Rashkovskiy et al. (U.S. Patent Number 6,181,476). It is respectfully submitted that these dependent claims are allowable for at least the reasons set forth above with respect to the independent claims from which they depend because Rashkovskiy fails to remedy the noted deficiencies of Juen in view of Suh.

Claims 18, 22 and 23 stand rejected under 35 U.S.C. §103 over Juen in view of Suh and further in view of Okuley (U.S. Patent Publication Number 2003/0112348). It is respectfully submitted that these dependent claims are allowable for at least the reasons set forth above with respect to the independent claims from which they depend because Okuley fails to remedy the noted deficiencies of Juen in view of Suh.

Claims 1, 4-14, 17, 19-21 and 24 also stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Published Patent Application 2002/0024602 to Juen in view of U.S. Patent No. 4,763,146 to Niikura. As in the previous grounds of rejection, Niikura is applied to allegedly remedy the above-noted deficiency of Juen, i.e., that Juen fails to teach or suggest the step of "temporarily storing the video frames in a frame buffer when one or more high

resolution still images are acquired during the video frame acquisition” in combination with the other claim 1 elements. Applicant respectfully submits that Niikura, like Suh, also fails to provide the necessary motivation to modify Juen in a manner which would have resulted in Applicant’s claimed combinations for at least the following reasons.

Niikura describes a composite television/film camera in which, in one embodiment, a movable mirror is provided for selectively permitting light having passed through a lens to be incident upon either a photosensitive film or the light receiving surface of a television camera. In the Official Action, Niikura is characterized as disclosing that “during still image recording the moving image recording is interrupted wherein in order to overcome this interruption the moving image data is buffered in a frame buffer so as to enable the recording of the still image data without loosing any moving image data”. However Applicant respectfully submits that this is not a completely accurate characterization of the disclosure of Niikura.

As described, for example, in column 8, lines 20 et. seq. of Niikura, when the composite television/film camera is operated to take a still image, the movable mirror 12 is positioned such that light passing through the lens 6 is incident upon the photosensitive film 18a. During this time (period Tf), the pickup output signal S_c is not available for video signal generation. Accordingly, the system of Niikura instead reads out a previously stored segment of the pickup output signal S_c from memory 28 and uses the previously stored segment S_c , as if it were the current image data S_c for generating the video signal without interruption. Thus, unlike Applicant’s claimed combinations, Niikura teaches buffering video image data before a still image is taken, to be used later as a substitute for current

image data. By way of contrast, Applicant's claimed combinations temporarily store the video frames in a frame buffer when one or more high resolution still images are acquired during the video frame acquisition. This enables the video signal to be generated accurately without reusing previous frames as a substitute for current frames.

Accordingly, it is respectfully submitted that no combination of Juen and Niikura would have motivated one of ordinary skill in the art to have arrived at Applicant's claimed combinations. Reconsideration and withdrawal of this ground of rejection are respectfully requested.

Claims 2, 3, 15 and 16 also stand rejected under 35 U.S.C. §103 over Juen in view of Niikura and further in view of Rashkovskiy et al. (U.S. Patent Number 6,181,476). It is respectfully submitted that these dependent claims are allowable for at least the reasons set forth above with respect to the independent claims from which they depend because Rashkovskiy fails to remedy the noted deficiencies of Juen in view of Niikura.

Claims 18, 22 and 23 stand rejected under 35 U.S.C. §103 over Juen in view of Niikura and further in view of Okuley (U.S. Patent Publication Number 2003/0112348). It is respectfully submitted that these dependent claims are allowable for at least the reasons set forth above with respect to the independent claims from which they depend because Okuley fails to remedy the noted deficiencies of Juen in view of Niikura.

All of the objections and rejections raised in the Official Action having been addressed, it is respectfully submitted that the present application is in condition for allowance and a notice to that effect is earnestly solicited. If the Examiner has any questions regarding the foregoing, he is invited to contact the undersigned at (540)-361-1863 to expedite prosecution of this application.

Respectfully submitted,

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